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Porcelain Our feather-weight piate, very light and durable. SPECIAL, \$10.

Highest Class Dentistry at Moderate Cost.
extracted painlessly by the the thesthesis Method." Fillings in er, inlays and porcelain veneers.

pecial method.

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Dr. H. C. O Dr. J. M.

Smathers & McDonald 933 G Street N. W.



NEW YORK By Water PASSENGER SERVICE

OLD DOMINION TRANS. COMPANY FROM NORFOLK **3 SAILINGS A WEE** THRU RATES FROM

WASHINGTON \$15.00 one way-\$27.00 roun Including Berth and Meals from Norfolk Information, Literature and Res-AT CITY TICKET OFFICE 731 15th St. N.W. NORFOLK & WASHINGTON

STEAMBOAT COMPANY

THE PERNICIOUS PAIN OF RHEUMATISM WILL YIELD TO IT

Salicylic acid compounds are recognized by physicians to be most effective in relieving rheumatism, and especially is this true when the compound is aspirin.

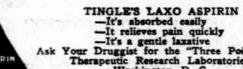
Aspirin is not a narcotic or habitage in the compound is aspirin.

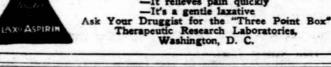
Aspirin days. Passacially a short time after taking, usually

Salicylic acid compounds are recognized by physicians to be most effective in relieving rheumatism, and especially is this true when the compound is aspirin.

Aspirin is not a narcotic or habit-forming drug. Pure aspirin does, however, disturb digestion oftentimes, and because of this discomfort which follows its use in the old form, many people wrongly believe aspirin to be a heart depressant.

TINGLE'S LAXO ASPIRIN dis-





BIG DOLLAR SALE

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Frames

Save Your Eyes These Prices

Can You Read this Type TEST TYPE. Toric

Lens.

Flat Bifocle, 2-in-1. \$1.00 Each

FREE---A handsome gold-filled Eye Glass Chain Free with every pair of Nose Glasses

The Newes! Thing in Wasses HAIN PREE



Colonial Rimless \$1.00 a Lens CHAIN FREE

ight taken in time are easily corrected. If they are allowed to go uncorrected, the may do great harm. Your eyes will serve you well if you treat them well.

Incorrectly ground or badly fitted glasses hurt the eyes. Even if you are able see with them, they may be causing eye-strain, just as going without glasses en you need them causes eye-strain, though you may not realize it at the time.

Making and fitting glasses takes scientific knowledge, skill and care. It is the work of a specialist. Many headaches and other physical and nervous disorders com om the eyes, and are relieved when the eyes are properly treated. So you can't afford to have anything but the best treatment for your eyesight. This we ine your eyes and make and fit all kinds of glasses. Don't wait for aye trouble to develop into a serious matter. Come in now and see if you have any. If you do not need glasses our expert will gladly tell you so.

POSITIVE PROOF-Get an extra pair of glasses. Bring in your glasses you are wearing and we will duplicate the lenses (except Bifocles) at \$1.00 each.



REPAIRING—We repair anything in the optical line. Bring us your repairs

MAIL ORDERS WILL RECEIVE PROMPT



TIME CHANGE AFFECTS BROADCASTING

WORKS WELL WITH UNDERGROUND COIL

Experiments Successful Over Range Within 1,000 Miles.

P. B. Lyon, vice president of the tadio Instrument Company, following the receipt of a report from James W. Cook who has just con-James W. Cook who has just concluded experiments with the radio frequency amplifiers designed and manufactured by the company and used with loop antenna stated yesterday that the underground loop antenna has been proved practicable for the reception of radiophone signals over long distances.

"With a loop in a concrete lined cellar, in a galvanized iron housing and in a hole six feet deep," the report said, "it was demonstrated that the use of radio frequency amplifier in connection with the underground loop antenna was practi-

ground loop antenna was practi-cable for distances up to 1,000 Although local stations which were evidently of high power interfered to some extent, there was a very noticeable reduction of these disturbances and an almost entire elimination of static com-

pared was made at intervals with a straight overhead serial, which gave no greater distance, but in-creased static effects through the receiving set.

During the experiment with loop in hole, a magnavox wis attached to the receiver and the received signals amplified and made audible signals amplified and made audible for a distance of several hundred feet. On Tuesday evening in spite of a heavy rain, and considerable water in the bottom of the pit the reception of radiophone signals was excellent. Schenectady, Detroit, Pittsburgh and Newark were heard

Pittsburgh and Newark were heard clearly. The recent experiments were conducted in Cincinnati, and were previously a continuation of those conducted by Dr. J. Harris Rogers, of Hyattsville, 'Md.

Wired Wireless Heard on Ships

Metal Lines Guide Radio Frequency Waves for Long Distances.

Washington radio enthusiasts who heard the chimes as played from Watervillet, N. Y., on Thursday night and the recent radiophone communications between Harrisburg, Pa., and the S. S. America several hundred miles at sea were listening to results of important developments in sosea were listening to results of important developments in so-called wired wireless.

called wired wireless.

By such a system, waves of radio frequency are guided by ordinary line wires to a distant radiophone transmitting station, there to be re-radiated into space from the transmitting antenna. These reradiated waves because of their unguided directions would not travel as far considering the power used, but of course by traversing space they were most practicable whereas wired wireless is imprac-

whereas wired wireless is impracticable and extremely expensive over extremely long distances.

In usual telephone conversation the frequencies used are from 100 to 3,000 cycles a second. Radio frequencies run as high as 3,000,000 cycles a second. The ordinary telephone transmitter which does not differ essentially from a microphone often used, permits the sound vibrations of the voice to produce corresponding vibrations sound vibrations of the voice to produce corresponding vibrations in an electric circuit, containing in part an electron tube generator and a modulating tube. Radio waves sent out by this apparatus follow telephone, telegraph, trolley and power lines. At the receiving station these radio waves are constation these radio waves are constation these radio waves are con-ducted through a filter or fre-quency selecting system, thence through a detector tube as in usual radio receiving. It is pos-sible by a proper selection of fre-quencies to carry on several con-versations at once. Recent developments in this field have accor plished inland to ship, train to

Fireman Hurt; Blaze Routs Three Families

Three families were routed from heir homes and a fireman was injured in an early morning blaze yes terday at the home of George Case.

1417 Thirty-third street northwest.
The flames spread to the adjoining homes of John H. McIntyre, 1419
Thirty-third street, and of Robert
Shaw, 1415 Thirty-third street, doing a total damage of nearly \$4,000. John Engle., 32 years old, of No. truck company, was injured when windew fell on his head.

QUICK RELIEF FROM NERVOUS **HEADACHE**

Do you ever start the day with nerves tense, head throb-bing, your whole frame taut and "on edge?"

Pure aspirin alone, you may fear to take because it gives you heartburn—but fear it no longer.

TINGLE'S LAXO ASPIRIN, the new perfected aspirin, com-bines the wonderful pain combating powers of genuine as-pirin with a digestant added to prevent this after-discomfort. Its laxative qualities further benefit the general system, en-abling the body to throw off the

abling the body to throw off the toxins or poisonous wastes, which when pent up in the system are the cause of headaches and pain.

No aspirin on the market can so readily attack the pain of nervous headaches. Be sure when you ask for aspirin to ask for TIN-GLE'S LAXO ASPIRIN, the aspirin with the three

—It's absorbed easily

—It relieves pain quickly

—It's a gentle laxative

TINGLE'S LAXO ASPIRIN Ask your druggist for the Three Point Box." Therapeutic Research Laboratories, Wash-ngton, D. C.

RADIO FREQUENCY SHIP, 1,500 MILES DISTANT, **CORRECTS ITS TIME BY RADIO**

Arlington Connected With Master Clock at Washington Observatory.



Hears 1,500 Miles,

3,000 miles.

At the exact hour of 12 noon and

It might be thought there would

of precision located in the navigat

and night is Eastern Standard

Washington has resulted in some

recently reorganized with Brent Dan

iels as president, already has secured

iels as president, already has secured a factory site and expects to begin production within a brief period. Mr. Daniels, the new president, formerly was connected with the Bureau of Standards, and perfected the radio frequency transformer which is the distinguishing feature of the amplifier sets manufactured by the Radio Instrument Company.

The Washington Radio Corporation an entirely separate and dis-

tion, an entirely separate and distinct enterprise, is officered by Charles N. Schneider, president; James Lawrence Endicott, mechanical engineer, and J. N. Halper, secretary-treasurer. This concern announces it soon will begin the manufacture of each on a large scale.

ufacture of sets on a large scale.

PLAN TWO RADIO

The photo shows a navy man making direct wire connection between the Arlington (NAA) transmitting apparatus and the master clock at the Washington Observa-tory, Thirty-fourth street and Massachusetts avenue northwest. This circuit is plugged in simultaneously with line wire circuits through the American Telephone and Telethe American Telephone and Tele-graph, Western Union, Postal and other companies. Then follow the automatic flashing, by wire and wireless, the noon and 10 o'clock evening time ticks over many thousands of miles. The powerful transmitting station at Annapolis (NSS), sends these same signals

In the Air Today.

10:30 a. m.—Meteorological report 5,950 meters of arc transmitter.

\$:50 to 9 p. m.—Radiophone. 1,200 meters. News.

Conn. Ave. and N St.

from literature and art: "The Message of the Painter." Luke, Angelco, Angelo and Tissot.

KDKA-PITTSBURGH.

Church. 7 p. m.—Services of the Calvary Episcopal Church. KYW-CHICAGO.

6:45 p. m.—Sandman stories by Abble Phillips Walker. 7:30 p. m.—"History of Sugar." by Mr. Green, of the American Sugar Refining Company. 8 to 10:15-Musical program

WBZ-SPRINGFIELD, MASS. 8 p. m .- Church service.

Mellon Revokes Order

Secretary of the Treasury Mellon yesterday ordered withdrawn the rul-ing of Internal Revenue Commission-

ing of Internal Revenue Commission-er Blair that contributions to the Woodrow Wilson Foundation fund are not deductible from income tax returns.

The ruling will be reviewed, Mr. Mel'on said, but he indicated he be-lieved it should be completely over-

Policeman's Bicycle Stolen. The bicycle of Park Policeman J. W. Sheedy, 2301 N street northwest, was stolen at Ninth street and New

NAA-NAVAL RADIO STATION.

12 m. and 10 p. m.—Time signal, weather report, ship orders. 10:30 p. m.—Naval press news. Wavelength, 2.650 meters.

11 a. m.—Morning service, sermon by Dr. Charles Wood, D. D., pastor. 3:30 p. m.—Afternoon service, address by Dr. Wood: "Scientific and Unscientific Spiritualism." 8 p. m.—Evening service, sermon by Dr. Wood. Spiritual messages, from literature and art: "The

11 a. m.—Services of Point Breeze Presbyterian Church. 2:45 p. m.—Children's Bible sto-ries. "The Wee Sheep and the Great Shepherd"

3 p. m.-Radio Chapel at KDKA station, conducted by Rev. A. W. S. Garden, of Emanuel Episcopal

Central time. Deduct one hour.

6:30 p. m.—Sunday radio chapel.

WJZ—NEWARK, N. J.

3 p. m.—Radio Chapel.

4:30 p. m.—Duo art piano and acolian orchestrelle.

6:30 p. m.—Reading by Ralph Mayhew and records from the "Bubble Book That Sings."

6:45 p. m.—Sandman stories by Angeles, Cal. Keeping these facts in mind it will help in tuning the radiophone set to know that KWY Chicago, transmits on Central time, and that to correct the transmitting time of WJZ and WVP, which may starting today, operate on daylight saving time, one hour must be added to the above figures. The time sent from NAA each upon noon R. E. W

For Wilson Fund Taxes

Broadcasting Programs, Dates and Wavelengths for This Week. LOCAL STATIONS DAILY.

NAA-NAVAL RADIO STATION. 10:30 a. m.-Meteorological report on 5,950 meters of arc trans

12 m. and 10 p. m .- Time signal, weather report, ship orders. 8:30-9:00 p. m.—Radiophone news, 1200 meters. 10:30 p. m.—Naval press news. Wavelength, 2,650 meters. WWX-POSTOFFICE DEPARTMENT STATION. 10 a. m .- Weather report; 10:30 a. m., marketgram; both radio

12:30 p. m., 2:45 p. m., 3:30 p. m., C. W. telegraph marketgram on 1,980 meters; 5 p. m., dairy products for New York, and grain report. Radiophone 1,160 meters.

7:30 p. m. and 8 p. m., radio marketgrams; 9:50 p. m., weather report. All radiophone on 1,160 meters. 360 meters unless otherwise noted. WMU-Doubleday-Hill Electric WEDNESDAY AND FRIDAY-ompany.

Company.
4:30-5:30—Music. Baseball scores from The Herald.
3YN—Radio Institute, spark transmission. 6:30 to 7:00 p. m. MONDAY—WPM—Thomas J. 8:30 to 9:50 p. m.-Music, 910 THURSDAY AND FRIDAY-7:30 to 8:30 p. m.—Music. DISTANT STATIONS DAILY. Williams, Inc.

8 p. m.—Lecture and music.
TUESDAY—NOF—Naval Air Station.
4 to 4:30 p. m.—Music, 1,100
Meters.
WJH—White and Boyer.
7:30 to 10 p. m.—Music and lecture.

WATCH HEPALD DAILY SCHEDULE BOOK DESCRIPTION STATIONS DAILY.

KDKA — Pittsburgh; WJZ—
Newark; KYW—Chicago; WBZ—
Springfield; WGL—Medford, Mass;
WVP—Fort, Wood, N. Y.; Also
KQV—Doubleday—Hill Electric
Co., Pittsburgh, Pa., on Monday,
Wednesday and Thursday nights
at 8:30 o'clock.

Radio Amateurs Offered Prizes

New York Show Will Give \$500 for Exhibition of

The important feature of the New York radio show to open at the

York radio show to open at the Seventy-first Regiment Armory. Thirty-fourth street and Lexington avenue, on May 22 will be a prize exhibition of radio receiving sets constructed by amateurs in any part of the United States.

Prizes aggregating \$500 will be awarded the sets scoring the most points. Prominent men in the radio field will be the judges.

The conditions of the contest are: Any amateur may enter as many sets as he or she desires. "Amateur" is defined as "an individual who is not directly or indirectly engaged in the manufacture, production or sale of radio apparatus for commercial purposes." Entries will be judged on the point system, the entry receiving the greatest number of points will be awarded first prize; next highest, second prize, etc.

ed arst prize, next highest, second prize, etc.

Efficiency of reception, 50 points; appearance, 10 points; simplicity of operation, 10 points; wiring and connections, 10 points; economical cost, 10 points; "hook-up" diagram, 10 points; 0 points. Prizes will be awarded as follows: First prize. \$100; second prize. \$75; third prize. \$50; fourth prize.

\$25; fifth to fourteenth prizes, \$10 each; fifteenth to thirty-fourth. A special prize of \$50 will be awarded the entry receiving the greatest amount of votes from those in attendance at the radio show. wave length of 17,000 meters.

The dashes, as transmitted from Arlington are made at one second intervals starting five minutes before the hour. The last second of each minute is indicated by a long-

Entry blanks may be had on written application to Amateur written application to Amateur Committee, Radio Show, Hotel Mc-Alpin, New York City.

10 p. m., a very long dash termi-nates the time signals. Under or-dinary atmospheric conditions these time ticks are heard from 1,500 to **Questions and Answers**

be a fraction of a second lost before the tick was heard on a ship 4,000 miles distant. Radio waves traverse that distance in something less than one two-hundredth of a second, and the most accurate timepiece known is not sensitive to a fraction of time less than one-fifth of a second.

Ship's Chronometer Unchanged.

When the time ticks are being received in the radio room aboard received in the time ticks are being it has no grid, but a plate. It is liable to give the beginner a wrong be a fraction of a second lost be-fore the tick was heard on a ship 4,000 miles distant. Radio waves received in the radio room aboard ship, the quartermaster on watch stands with phones on head watch-ing a small ship's clock in his hand. liable to give the beginner a wrong idea. M. K. G., jr., Baltimore, Md.

A. Your correction is appreciated and it is hoped any other errors will be reported. The Fleming valve as At the exact hour as indicated by the long final dash he sets the clock. you state is a two-element tube, plate and filament. Another error occurred in the issue of April 27 when in an article on the B battery the sentence in the introductory The ship's chronometer, a timeplece ing officer's cabin is then compared with the clock as corrected by the quartermaster. Although its er-rors are noted daily, the ship's

paragraph omitted the letter B:
"The B battery may be a storage
battery, etc.," the reading of the
paragraph giving the impression
that the A battery was a dry or
primary cell. chronometer is not changed, for it is set accurately to Greenwich mean time.

Greenwich is a hamlet on the primary cell. Clapp-Eastman Set. Q. I have a Clapp-Eastham type

Thames river a short distance from London. Geographic positions in our part of the world are all de-termined with reference to their HR. single circuit regenerative re-ceiving set, and a two-stage audio frequency amplifier, which I use with a fairly good single wire andistance east or west of Greenwich. Must Allow for Extra Hour. (a) Would I be able to hear New-In 1883 the United States was divided into four meridians, 75, 90, 105 and 120 degrees west of Greenwich, respectively. Between degrees of longitude represented by ark and Pittsburgh just as loudly with a similarly constructed set

with a similarly constructed set with a similarly constructed set grees of longitude represented by these figures the time belts established were: Eastern, Central, Mountain and Western. There is a difference of one hour between each time belt. Thus 12 o'clock noon in Washington is 11 a. m. in Chicago: 10 a, m. in Denver; 9 a. m. in Los Angeles, Cal. Keeping these facts in mind it will help in tuning the (c) Would a stage of radio and

A. (a) I would suggest that you consult local dealers who handle this type of set. Radio frequency will not increase the strength of FACTORIES IN D. C. will not increase the strength of a signal you would otherwise receive. It is a feature of the The organization of a new radio corporation and the reorganization of amplifanother company long established in radio frequency amplifier to amplify radio waves before they are of the requisite strength

nother company long established in Nashington has resulted in some onfusion, due to simultaneous announcements from both concerns.

The Radio Instrument Company, eccently reorganized with Brent Dancels as president, already has secured a factory site and expects to begin production within a brief period. Mr. Daniels, the new president, formerly with the Bureau of the requisite strength to be detected by the detector tube. In this respect the receiving range of your set would be aided by the suggestions you make.

(b) You would hear those stations with less adjustment, but without recease in the strength of signals you would need to use two signals you would need to use two signals you mould need to use two signals with the strength to be detected by the detector tube. stages audio in connection with the

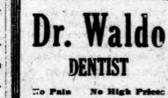
radio frequency (c) For local work use one stage

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PLATE SPECIALIST
Plates Repaired While \$1.50
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Crown, Bridge and Porcelain
Work, Painless Extractions.
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Saks.

Piltsburg Edgar Morris Sales Co. 1505 G at. aw. Main 1039-1033.

LADIES AND CHILDREN'S PANAMA HATS Vienna Hat Factory 435 11th St. N. W.



Guaranteed 20 Years Phone Franklin 6545 309 7th St. N. W.

the desired wave lengths.

RADIO For Everybody

Come in and tell us about your plans. Let the oldest-established achool in Washington serve you. We have a complete line of radio apparatus also.

NATIONAL RADIO INSTITUTE.

Honey-Comb Coll Since. Q. Please inform me how to cal-

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Westinghouse Sr., \$75.00 Inst. Full Line of Radio Parts Carried in Stock

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Parts

Everything needed for assembling of Radio Outht. Fada Rheostats, Sockets, G. A. Dials, Rotors, etc., etc.,

> Head Sets Dictagraph, 3,000 ohms, lightweight and

\$1.50 to \$10.00

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FOR IMMEDIATE DELIVERY



OUR SETS FROM \$16.50 UP

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When we opened this Department we determined to make service a feature of it. It's a new subject and there is much upon which you'll want advice. Please don't consider whether you are buying or not, but feel free to consult the experts you'll find here. They know and what they know is at your "service."

Complete Sets of Standard Makes \$15.00 to \$375.00

"A" and "B" Batteries

10c to \$2.25

on and "listen in."

Pennsylvania Ave. Seventh Street

WATCH HERALD DAILY SCHEDULE FOR PROGRAM.